



# DOF Research Projects

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Alaska Division of Forestry

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# Inventory Projects

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## Federally Funded Programs

Forest Inventory and Analysis

Cooperative Alaska Forest Inventory

Fort Wainwright Forest Inventory

Birch Regeneration

## DOF Funded Programs

Levels Of Growing Stock

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# CAFI – History and Plan

- Originally part of Growth and Yield Program at University of Alaska Fairbanks
- First plots installed in 1994 but discontinued in 2015
- 5-year interval up to 5 measurements (6 including 2020-21 remeasurements)
- DOF took over the project in 2020
- 10-year interval moving forward

# CAFI – Collaboration

- Two Funding Sources
  - USFS Evaluation Monitoring Program
  - USDA McIntire-Stennis Forestry Capacity Grant
- \* Both grants heavily matched by DOF



## **Evaluation Monitoring Program (2021-2023)**

- Collaboration with Jason Moan, DOF entomologist
- Using CAFI plot remeasurements to assess spruce beetle damage in southcentral

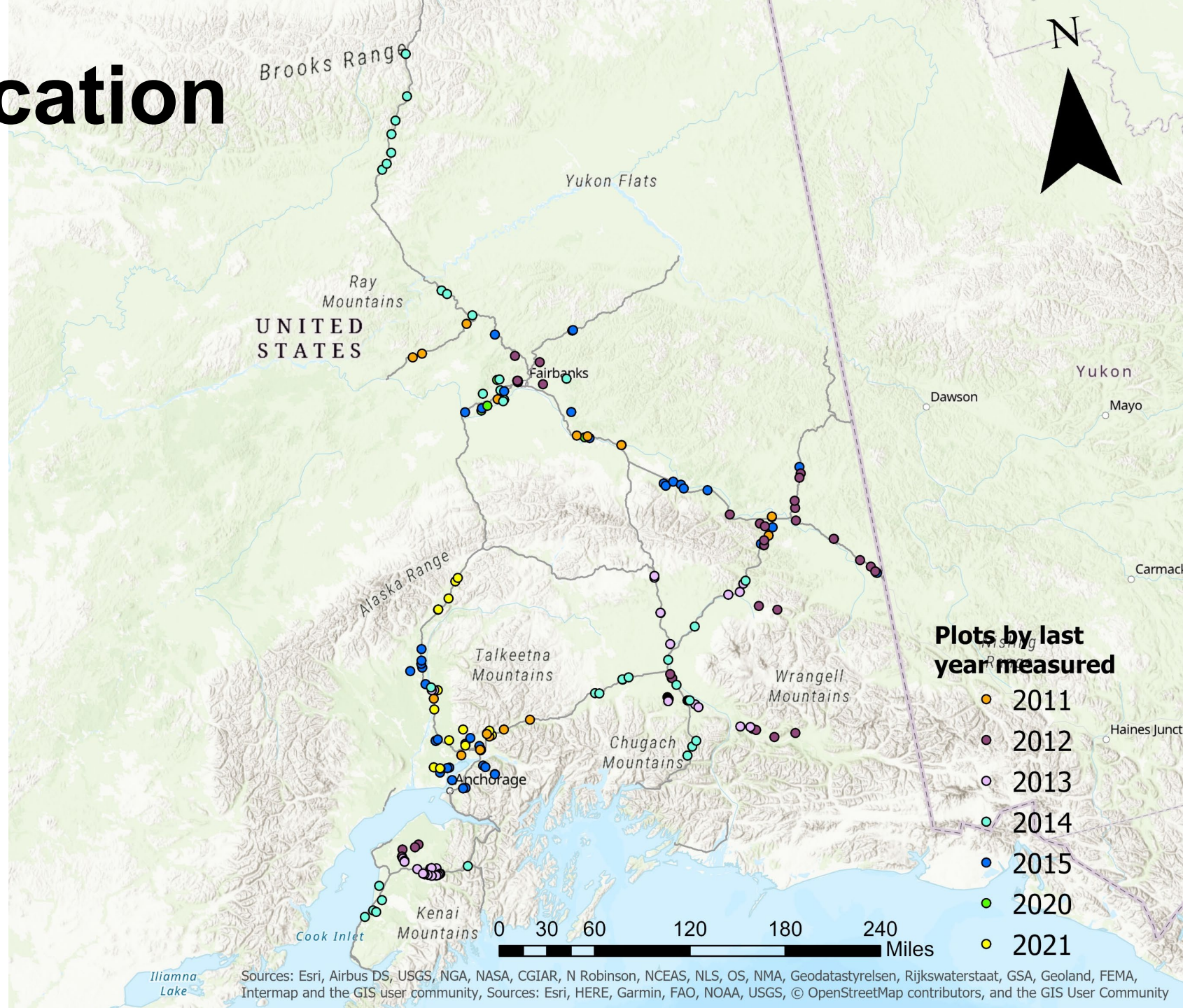
## **McIntire-Stennis Forestry Capacity Grant (3-year funding)**

- Collaboration with UAF researchers
- Remeasurements of the rest of the CAFI plots



# CAFI – Plot Location

- Road accessible
- Wide distribution
- ~200 plots





**Beautiful view of dead spruce  
at Hatcher Pass**

**Spruce all killed?**





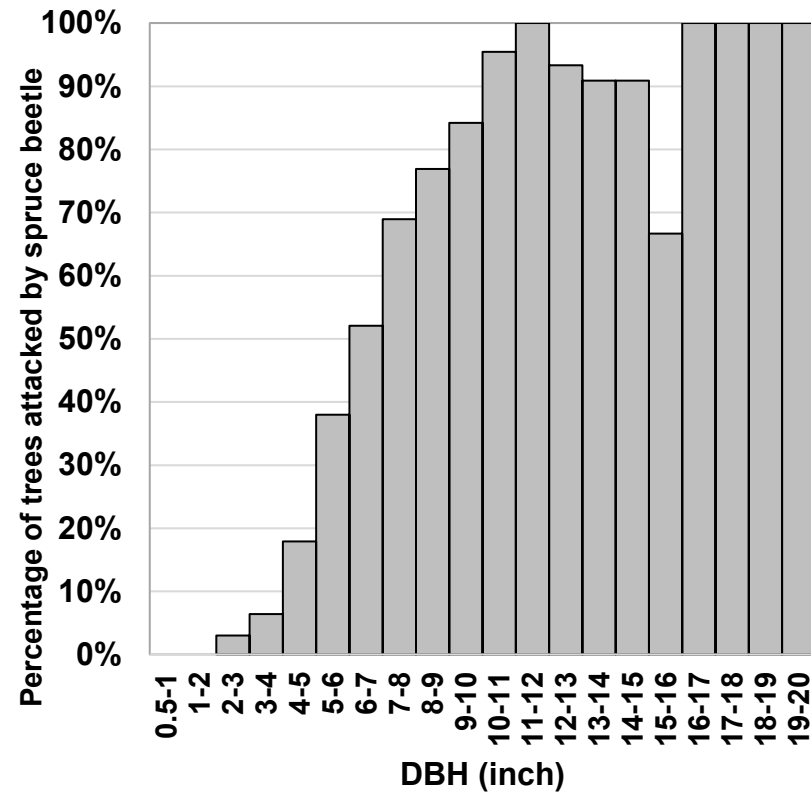
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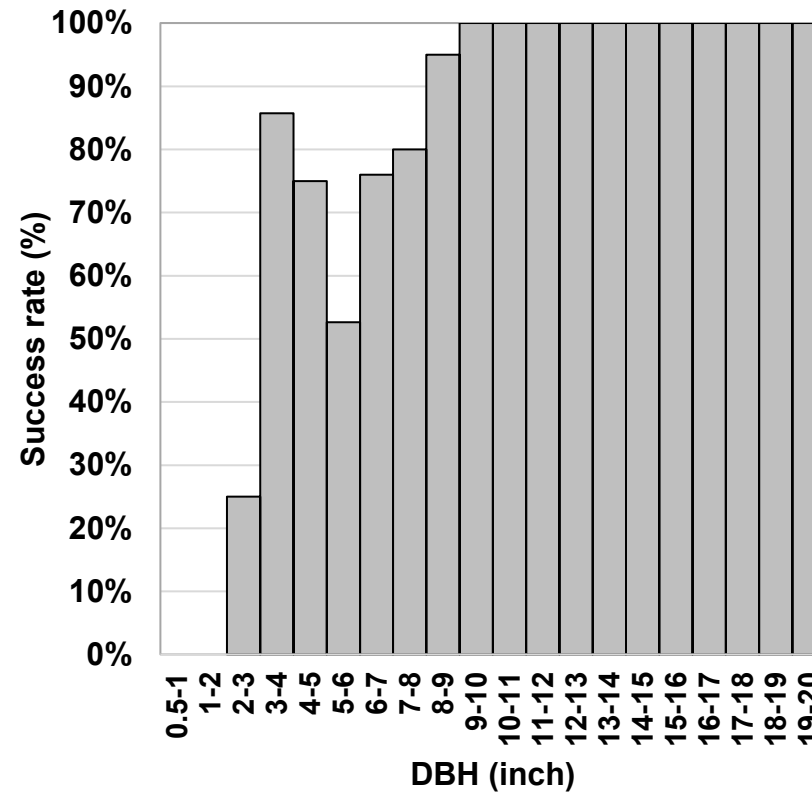


# Larger white spruce are more susceptible to spruce beetle attack

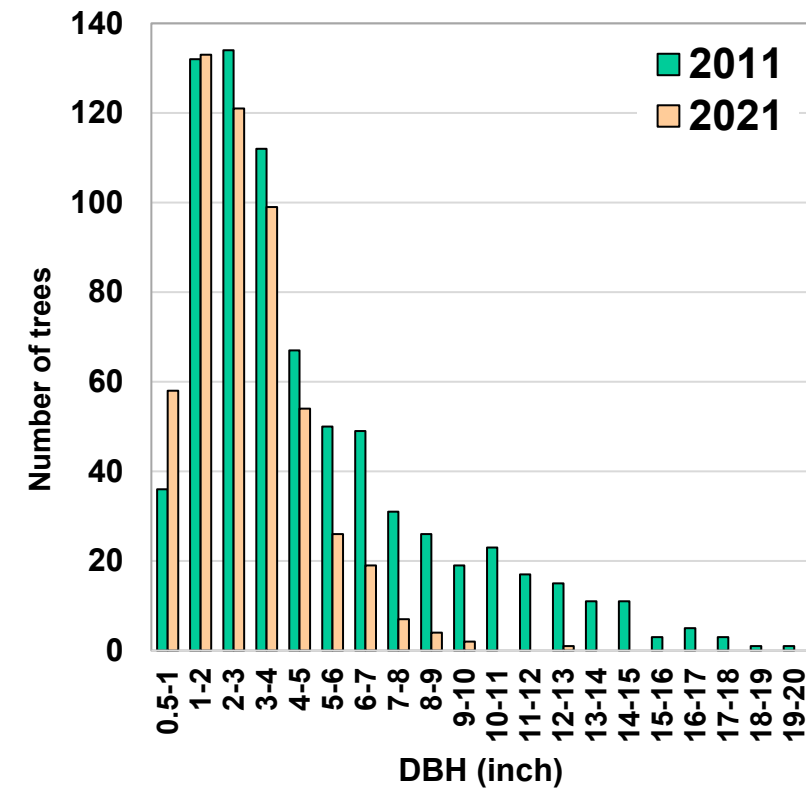
*Percentage of white spruce attacked by spruce beetle by DBH classes*



*Success rate of spruce beetle attack by DBH classes*



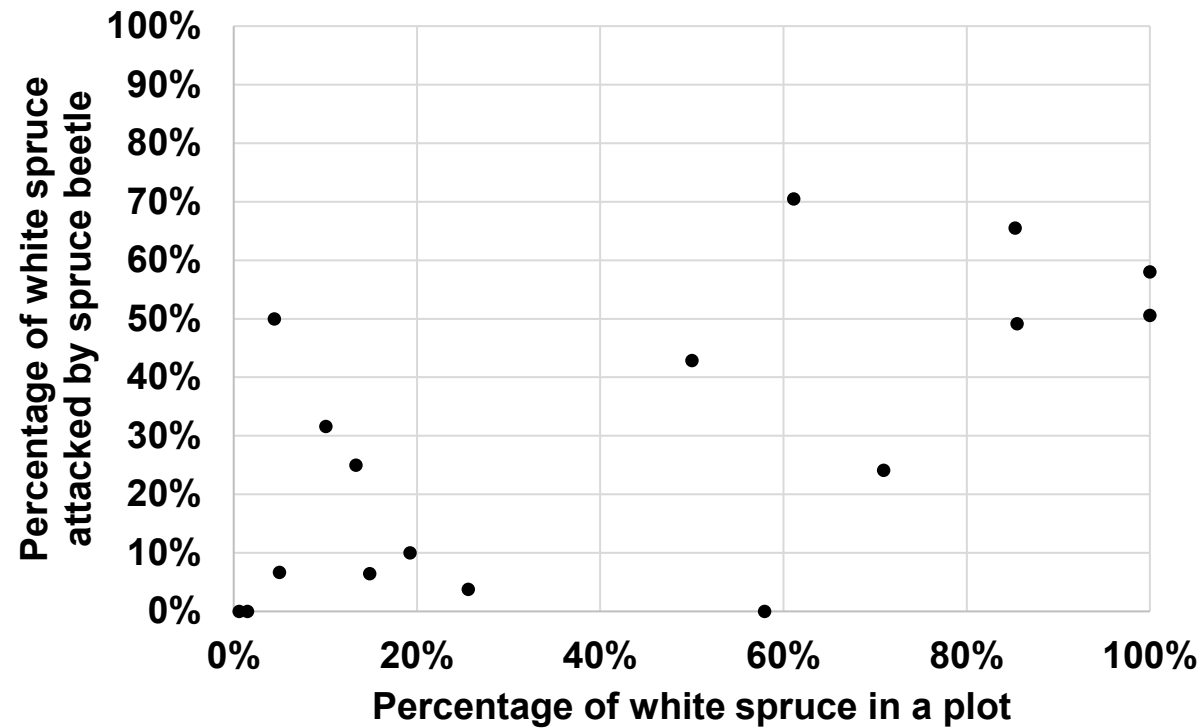
*Number of live white spruce by DBH classes in 2011 and 2021*



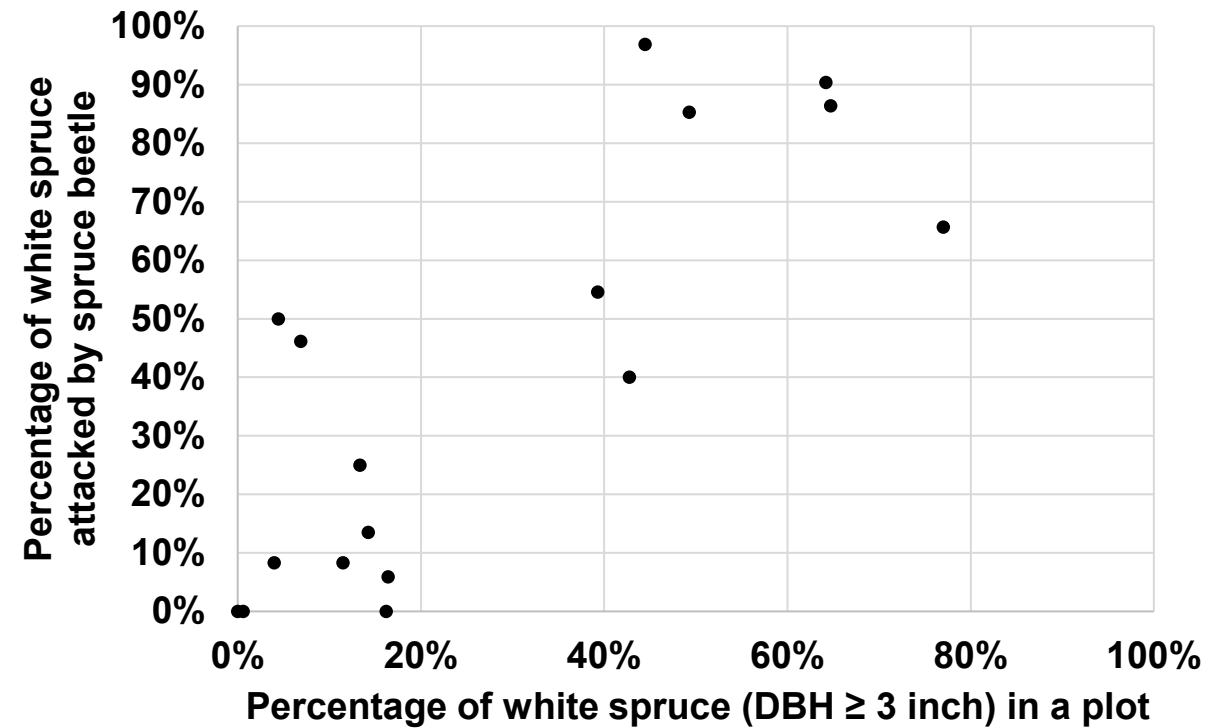


# Sites with more white spruce are more susceptible to spruce beetle attack

*White spruce density (%) vs  
spruce beetle attack (%)*



*White spruce density (%; **DBH ≥ 3 inch**) vs spruce beetle attack (%)*





# Fort Wainwright Forest Inventory

- Started in 2001
- Likely the last cycle of measurements
- Funded by Department of Defense
- 5-year grant
- Year 2 just ended









# Birch Regeneration

- Regeneration survey of birch harvest units on Fairbanks Management Area of Tanana Valley State Forest
- 2 research questions
  - **Is regeneration successful following birch harvest?**
  - **Can we use drone?**
- Funded by McIntire-Stennis Forestry Capacity Grant (funded to UAF) and matched heavily by DOF
- Collaboration with UAF researchers





# LEVELS OF GROWING STOCK

## Spacing

4'x4'

6'x6'

8'x8'

10'x10'

12'x12'





# LOGS

- Originally part of Growth and Yield Program at UAF
- 2 locations – **Bonanza Creek** and **Tok**
- Bonanza creek sites established in **1986** (sites burned in 1983)
- Tok site established in **1992** (site burned in 1990)
- UAF did last measurements in **2011** (Bonanza Ck) and **2012** (Tok)
- DOF remeasured Bonanza Ck sites in **2021**
- DOF plans on remeasuring Tok site in 2022
- Continue remeasurements at 10-year interval



**4' x 4'**



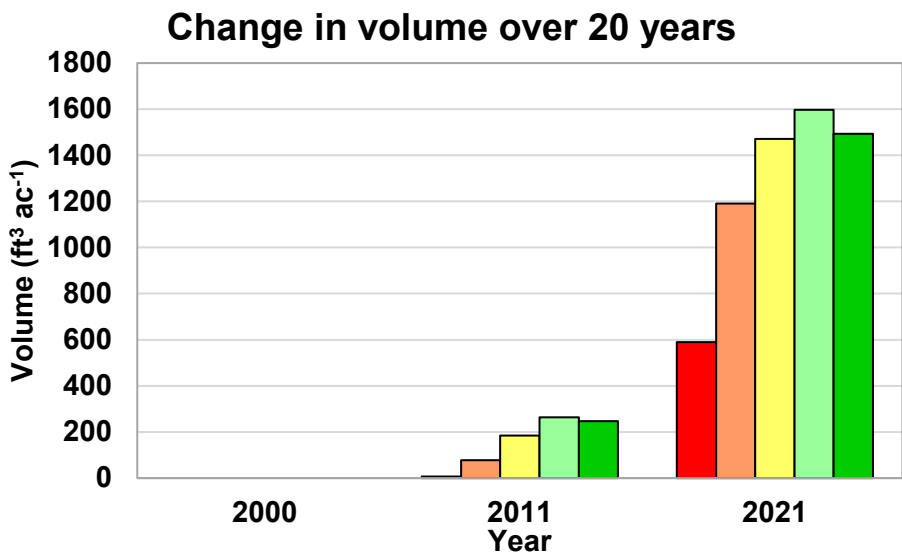
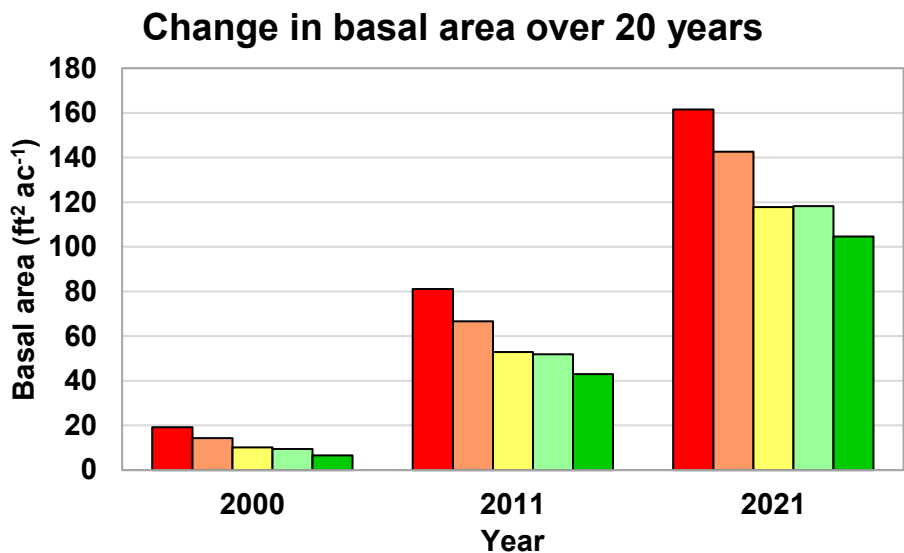
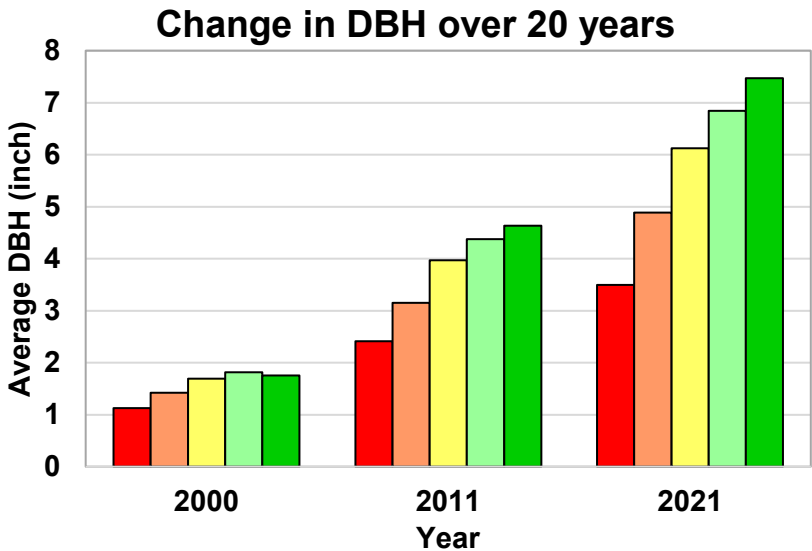
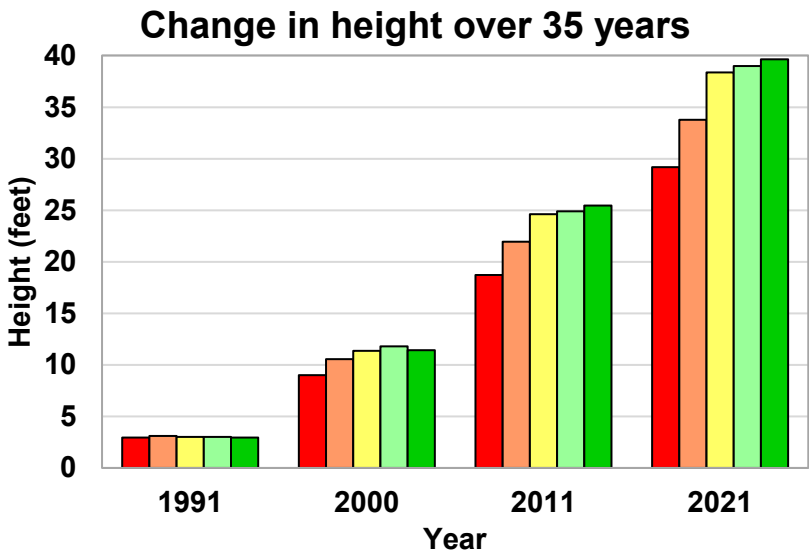
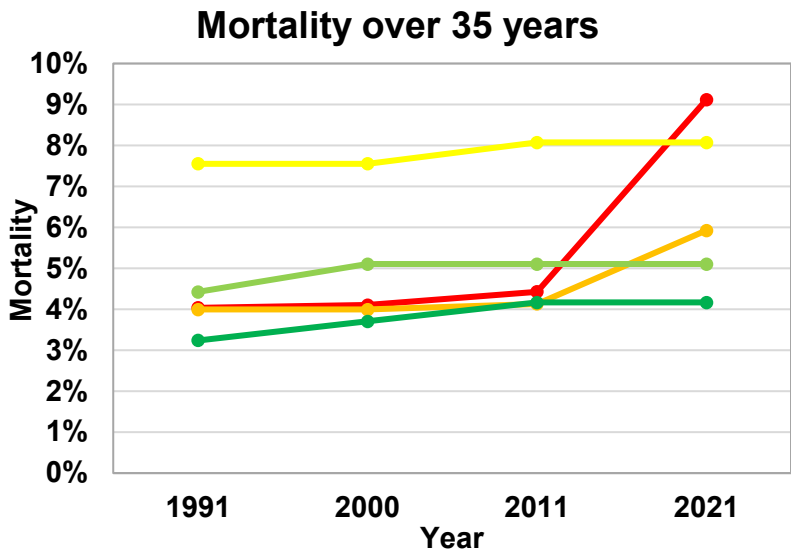
**12' x 12'**





# Mortality and Growth at Bonanza Creek Sites

■ 4' x 4' ■ 6' x 6' ■ 8' x 8' ■ 10' x 10' ■ 12' x 12'







# Questions? Suggestions?

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